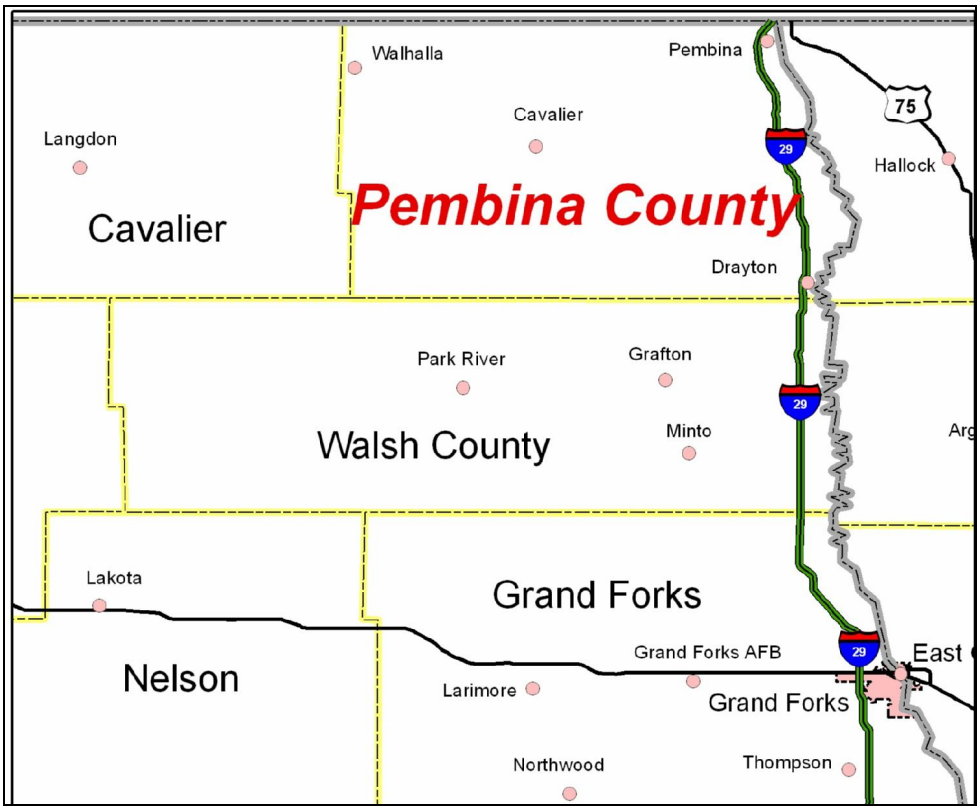
Labor Availability Study

Revised October 5th, 2006

Pembina County and Surrounding Area

2006



A collaboration of:

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Major Findings

Summary of Findings

Site developers, economic planners, and others will often refer to the unemployment rate to determine if there is an available labor force; but while the unemployment rate is a consistent measure across the country, it is incomplete. Being unemployed is defined as not working but actively seeking work. However, some individuals who are working would be interested in changing jobs or occupations, others would want additional hours, and some are planning to find work within the year. These individuals are not normally counted as part of the available labor pool in an area.

In 2006, the state of North Dakota, in cooperation with local partners, funded a study to measure the available labor pool.

In the area including and surrounding Pembina County, there exists a potential labor force of 12,801 individuals, or approximately 55 percent of the adult population. The majority of these individuals are currently working but would be willing to consider alternative jobs. The labor force (those employed, which includes the self-employed as well as those actively seeking work) is estimated to be 53 percent of the adult population, or 12,380 individuals.

Characteristics of the Potential Job Seekers

	Number*	Percentage of 18+
Potential Job Seekers	5,350	22.9%
Actively Seeking Work	663	2.8%
Planning to Look Within the Year	265	1.1%
Interested in Changing Jobs	3,626	15.5%
Interested in Additional Jobs	1,968	8.4%
Those Discouraged From Looking	155	0.7%

***The numbers will not total to the Potential Job Seekers, as duplication is possible.**

Pembina County Labor Availability and Surrounding Area

Scope of Study

The purpose of this study was to explore the size and characteristics of the potential labor pool in and around Pembina County, North Dakota. A telephone survey was conducted by the University of North Dakota – Social Science Research Institute (SSRI), who contacted 1,058 respondents in Pembina, Walsh, Cavalier and Kittson (MN) Counties. This area was determined by the developer and was based on community and business trade patterns.[1] According to 2000 Census estimates, there are approximately 23,346 people age 18 and older living in these areas.

Area/Counties	Census 2000	Adult 18+
Pembina County	8,585	6,445
Walsh County	12,389	9,298
Cavalier County	4,831	3,643
Kittson County (MN)	5,285	3,960
Total	**31,090**	**23,346**

The Population

Approximately 28 percent of the survey respondents live in Pembina County the remaining respondents reside in the other counties surrounding Pembina County. Slightly more women (52 percent) than men (48 percent) completed the survey. The typical respondent is 55 years old. Fifty percent are currently working and travel approximately 14 minutes or 14 miles to get to work. The largest occupations in the Pembina County area are Healthcare Support (15 percent), Office and Administrative Support (13 percent), and Sales and Related (11 percent). In general, respondents are well-educated with 91 percent having received a high school diploma and 25 percent having received a college degree.

These results differ somewhat from the 2000 Census data for the region.[2] According to the Census Bureau, 50 percent of the population is female and 50 percent is male, and the median age is 42. The Census Bureau also found that 80 percent of the population has a high school diploma and 16 percent has a college degree.

The median age of respondents (55) is older than the population of the 2000 Census. In comparison, the median age of the nation was 35.3 in 2000. Among survey respondents, 12 percent were between the ages of 18 and 34.

[1] Any impact of Manitoba residence on Pembina County's work force is not addressed in this study.
[2] Census figures shown are for Pembina County.

Education Level	Percentage that Attained This Level
Less Than HS Diploma	9.5%
HS GED Graduate	30.7%
Some College and Vo-tech	23.8%
Vo-tech Graduate	11.0%
College Grad and Advanced Degree	25.0%
Total	**100.0**

At the time of this study the unemployment rate in the Pembina County area was 7.5 percent[3]. Among the respondents, 50 percent are currently working, 3 percent are actively seeking work, and 1 percent are not actively seeking work. Also, an additional 13 percent are considered potential job seekers (PJSs), who are people willing to change jobs or take an additional job if the circumstances are right. These PJSs will be covered later in the paper. The remainder of the population over age 18 is not in the workforce.

The Current Workforce

A typical employed respondent works 40.7 hours per week and makes $13.72 per hour. A majority of these respondents had only one job and work full-time, which is defined in this study as 30 hours per week or more. Fifteen percent held more than one job. Generally, if a respondent works more than one job, the additional job is part-time. Twenty three percent of employed respondents have shift-oriented schedules, but an additional 15 percent of working respondents who do not currently work shifts said they would be willing to consider shift work. The following table shows the most recent occupations of the current employees in the Pembina County area.

Occupational Group	Numbers[4]		Percentage of Workforce	
Managerial, Professional and Related Occupations	4,183		35.7%	
Managerial		297		2.5%
Business and Financial Operations		148		1.3%
Computer and Mathematical Science		59		0.5%

[3] This figure reflects Pembina County as of March, 2006. Regional data is not available to the specific geographical region defined by this study.
[4] Estimates are rounded to the nearest whole number and may not sum.

Pembina County Labor Availability and Surrounding Area

Occupational Group	Numbers		Percentage of Workforce	
Architecture and Engineering		59		0.5%
Life, Physical and Social Services		--[5]		--
Community and Social Services		297		2.5%
Legal Occupation		148		1.3%
Education, Training and Library		1,127		9.6%
Arts, Design, Entertainment, Sports and Media		148		1.3%
Healthcare Practitioner and Technicians		89		0.8%
Healthcare Support		1,809		15.4%
Service Occupations	1,098		9.4%	
Protective Services		326		2.8%
Food Preparation and Serving		504		4.3%
Building and Grounds, Cleaning, Maintenance		148		1.3%
Personal Care		119		1.0%
Sales and Office Occupations	2,788		23.8%	
Sales		1,246		10.6%
Office and Administrative Support		1,543		13.2%
Farming and Related Occupations	801		6.8%	
Farming and Related Occupations		801		6.8%
Construction, Extraction, Installation and Repair	1,068		9.1%	
Construction and Extraction		534		4.6%
Installation and Repair		534		4.6%
Production, Transportation and Material Moving	1,276		10.9%	
Production		534		4.6%
Transportation and Material Moving		742		6.3%
Other Occupations not Classified Elsewhere	504		4.3%	
Other Occupations not Classified Elsewhere		504		4.3%

[5] Insufficient data sample / none found

Pembina County Labor Availability and Surrounding Area

The demographics of the workforce in the area are different from those of the general population. Current employees have a median age of 46.6. As shown in the chart, 12 percent of these current employees are between the ages of 18 and 34. Also, 35 percent are male, 31 percent have a college degree, and the average wage of current employees is $13.73 per hour.

Age Group	Percentage
18 – 24	5%
25 – 34	7%
35 – 44	15%
45 – 54	23%
55 – 64	18%
65 Plus	30%

Typically, current employees travel 14 minutes or 14 miles to get to work. This, however, depends on the occupation of the employee. For instance, the majority of those in Education occupations travel, on average, 9 miles to get to work while those in Construction occupations travel 58 miles to get to work.

The average length of tenure for employees in the Pembina County area is 9.0 years. Of the currently employed respondents, 84 percent work full-time--defined here as more than 30 hours a week--and most (89 percent) work year round jobs. The following table shows the benefits that currently employed respondents receive at their jobs.

Benefit	Percentage Provided
Healthcare	67%
Retirement Plan	54%
Life Insurance	36%
Disability Insurance	28%
Child Care	4%
Other	18%
Provided No Fringe Benefits	17%

The following table shows various occupations in the area by number of employed respondents as well as by tenure with employer, hours worked and hourly wages. In the Pembina County area, the highest percent of employees are in Healthcare Support, Office and Administrative Support, and Sales and Related occupations. The occupation with the oldest employees is Personal Care and Service at 55, while Architecture and Engineering have the youngest employees at 40. Healthcare Practitioner and Technical pays the highest with an average wage of $37.00 per hour. On average, employees in Farming work the most hours (57).

Pembina County Labor Availability and Surrounding Area

Occupational Group	Estim-ated Numb-er	Percent-age	Years with current employ-er	Hours worked in average week	Hourly wage
Management	297	3%	9	39.20	$18.08
Business and Financial Operations	148	1%	16	41.25	$18.00
Computer and Mathematical Science	59	1%	16	40.00	--
Architecture and Engineering	59	1%	4	47.50	$9.50
Life, Physical, and Social Science	--[6]	--	--	--	--
Community and Social Services	297	3%	7	43.30	$11.70
Legal Occupations	148	1%	9	39.40	$11.55
Education, Training, and Library	1,127	10%	10	42.40	$13.70
Arts, Design, Entertainment, Sports, and Media	148	1%	8	37.50	$9.50
Healthcare Practitioner and Technical	89	1%	12	51.33	$37.00
Healthcare Support	1,809	15%	8	38.49	$13.80
Protective Service	326	3%	9	42.80	$16.33
Food Preparation and Serving Related	504	4%	4	32.88	$7.88
Building and Grounds Cleaning and Maintenance	148	1%	4	34.40	$8.00
Personal Care and Service	119	1%	12	26.75	$12.58
Sales and Related	1,246	11%	8	38.17	$10.75
Office and Administrative Support	1,543	13%	8	37.90	$12.00
Farming, Fishing, and Forestry	801	7%	13	56.56	$12.77
Construction and Extraction	534	5%	8	45.94	$14.69
Installation, Maintenance, and Repair	534	5%	11	46.12	$19.75
Production	534	5%	10	43.89	$14.14
Transportation and Material Moving	742	6%	13	47.68	$13.37
Military	30	< 1%	--	--	--
Miscellaneous	475	4%	11	37.06	$12.56

Potential Job Seekers

Potential job seekers (PJSs) may either be employed or unemployed and are interested in either taking an additional job or changing jobs if the circumstances are right. In the Pembina County area, 23 percent or approximately 5,350 people age 18 or over fall into this category. The five types of potential job seekers are listed in detail below.

[6] Insufficient data sample

1. The unemployed:
   Those who are 18 and older, unemployed, and actively seeking work.

2. Individuals who plan to seek a job within the next year:
   Those who are not working, not seeking work, but plan to be looking for work within the year would be included in this category.

3. People who are working, but would be willing to change jobs:
   Using Bureau of Labor Statistics definitions, these people would be classified as employed. This group includes those individuals who are presently working who may or may not be actively seeking work, but would consider changing employers.

4. People who are currently working and are willing to take an additional job:
   Like the previous group, these individuals would be defined as employed. However, they would be willing to work an additional job and, as such, are part of the possible labor pool for different businesses.

5. Individuals who are discouraged and do not look for work:
   For the purpose of this study, the discouraged worker is defined as someone who is not working, is not actively seeking work nor planning to find a job within the next year, but would accept a job if it met their minimum acceptable wage requirements.

Characteristics of the Potential Job Seekers		
	Number	**Percentage of Population 18 Years of Age and over**
Potential Job Seekers[7]	5,350	22.9%
Actively Seeking Work	663	2.8%
Planning to Look Within the Year	265	1.1%
Interested in Changing Jobs but No Additional Jobs	2,299	9.8%
Interested in Both Changing Jobs and Additional Jobs	1,326	5.7%
Interested in Additional Jobs -but not changing jobs	641	2.7%
Those Discouraged From Looking	155	0.7%

The demographics of PJSs are different from those of the sample population. In general, the median age of a PJS is 44.6, making them younger than the rest of the sample. In addition, PJSs are more likely to be female (53.9 percent), have less education, have shorter

[7] Will not sum as PJSs can be in multiple categories.

tenure at their jobs (8.0 years), have slightly more years of management experience (12.8 years), and have slightly less (10.0 years) experience with computers.

The typical PJS travels 13 minutes or 14 miles one-way to get to his or her job. This varies by occupation. PJSs in Community and Social Service occupations travel an average, of 31 miles to get to work while PJSs work in Installation, Maintenance and Repair only travel 8 miles. The typical PJS would be willing to travel 36 minutes or 35 miles to go to work, but this also depends on their occupation. A PJS employed in Installation, Maintenance, and Repair is willing to travel 53 miles, while a PJS in Transportation and Material Moving is only willing to travel 23 miles.

On average, 21 percent of PJSs work shifts. Of those who do not currently work shifts, 18 percent would be willing to work shifts. Specifically, many PJSs (55 percent) say they would work shifts if it resulted in better pay. The most popular choice of shift for this group is day time (46 percent). Currently, 73 percent of PJSs work year round while 9 percent work seasonal jobs. Generally, in the Pembina County area, year round jobs are preferred (79 percent). On average, 58 percent of PJSs are interested in flexible work schedules in which their work hours are arranged around their personal schedules. On average, those who preferred to work flexible work schedules wanted to work 35 hour per week. Those interested in full-time employment are currently working on average 19 hours per week.

The reasons why PJSs would consider alternative employment vary. As shown in the following table, the most common reason to choose alternative employment is an increase in pay (45 percent). However, 10 percent would seek alternative employment for more career advancement opportunities.

Reason	Percentage
Increase in pay	45%
Increase in benefits	14%
Improvement in working conditions	7%
More career advancement opportunities	10%
Feel you are underutilized	8%
Gain more job status/prestige	3%
Something else [8]	13%

The next table shows that currently employed PJSs would generally accept a lower wage to work at an additional job. Similarly, many of those who would consider changing jobs would also be willing to accept a lower wage. The previous table indicates that 45 percent of PJSs would consider taking a different job for an increase in pay, but 14 percent would consider different employment if it meant an increase in benefits. The most desirable benefit, to PJSs is healthcare – overwhelmingly desired by 70 percentage of those responding—distantly followed by paid vacation (7 percent) and a retirement plan (also 7 percent).

[8] Of those who selected "Something else" the most common cited reasons dealt with variety of work experienced, quality of management and desire to reduce stress.

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Current Occupation:	Current Pay	Minimum Pay to Accept New Job
Management	$19.85	$15.43
Business and Financial Operations	$25.00	$22.50
Community and Social Services	$14.17	$13.00
Legal Occupations	$8.18	$8.00
Education, Training, and Library	$14.54	$11.26
Arts, Design, Entertainment, Sports, and Media	$9.00	$7.00
Healthcare Support	$14.41	$12.02
Protective Service	$10.50	$17.50
Food Preparation and Serving Related	$8.17	$8.00
Building and Grounds Cleaning and Maintenance	$8.00	$9.83
Personal Care and Service	$19.00	$13.50
Sales and Related	$10.55	$9.63
Office and Administrative Support	$11.05	$11.64
Farming, Fishing, and Forestry	$13.95	$12.21
Construction and Extraction	$12.89	$9.85
Installation, Maintenance, and Repair	$17.42	$15.85
Production	$13.71	$11.22
Transportation and Material Moving	$13.01	$9.72
Other Occupations not Classified Elsewhere	$10.83	$9.93
Average of Above	$13.26	$11.59

Approximately 95 percent of PJSs in the area have at least a high school education, and 22 percent have a college degree. Among the PJSs, 65 percent have some management experience. The median length of time for this experience is 12.8 years.

Education Level	Percent Attainment
Less than High School	5.6%
High School	26.9%
Some College	29.6%
Vo-tech Graduate	16.2%
College and Advanced Degree	21.8%

A majority of PJS respondents have experience using computers (79 percent), and 71 percent report experience using office suite productivity software. However, there were differences in levels of proficiency with different types of applications. Many respondents (61 percent) have high levels of proficiency[9] with word processing, but fewer are proficient at databases (34 percent).

Technical Skill	Not Skilled	Some Skills	Average	Above Average	Very Skilled	No Answer
Word Processing	3%	7%	30%	33%	28%	0%
Spreadsheets	13%	19%	28%	23%	17%	0%
Databases	10%	25%	31%	19%	15%	1%
Desktop Publishing	17%	19%	29%	22%	13%	0%

Six percent or the equivalent of 342 of PJSs indicated they have specialized computer technology training. They identified their level of proficiency as follows:[10]

Technical Skill	Not Skilled	Some Skills	Average	Above Average	Very Skilled	No Answer
Installing Computer Hardware	0%	0%	36%	21%	43%	0%
Writing Computer Program	36%	21%	14%	0%	29%	0%
HTML Programming	29%	21%	21%	0%	29%	0%

Although PJSs in the Pembina County area have impressive education and skill levels, there is still the acknowledgement by the group that more training may be necessary in certain professions. There are, however, some differences in the type of training these people would be willing to consider. As shown in the table below, the industry that PJSs were most

[9] High levels of skill is interpreted as meaning that the respondent selected either 4 or 5 on a 5 point scale with the higher number indicating a higher level of skill.
[10] Small sample size results in a significant level of variance in this table.

interested in receiving training in is Computer related fields (68 percent) while the industry with the least amount of interest is Construction (35 percent).

Industry	Percent Interested
Information Computer Technology	68%
Business Services	57%
Production	46%
Healthcare Service Fields	50%
Engineering Fields	36%
Construction Trades	35%

Respondents were asked "what type of training would they be most likely to consider, such as 2 – 4 years of training including apprenticeships, associate or bachelor's degrees, licenses and/or certification." Overall, the most desirable type of training was "on-the-job" according to 63 percent of PJSs.

Training Desired	Percent Interested
On-the-job	63%
Eighteen months or less of training	19%
Nineteen to twenty three months of Training	2%
Two to four years of training	10%
Over four years of training	3%
Did not know / Refused	5%

Many PJSs have received Job Skills training in the past three years. Thirty six percent indicated they have received some Job Skill training. The most common training received was Technical Training followed by Safety Training. The majority of these individuals are PJS who currently hold jobs but are interested in a new job or an additional job.

Job Skills Training	
Basic Skills	4%
Product Sales	6%
Interpersonal Skills	15%
Thinking and Organizing	12%
Quality Improvement	6%
Technical Training	24%
Safety Training	15%
Did not know /Refused	8%

Discouraged Workers[11]

In the Pembina County area there are approximately 155 individuals who are categorized as discouraged workers. The typical discouraged worker in this area has been out of the labor force for one year. In general, these workers are about the same age as the average PJSs, with a median age of 39 years. In the Pembina County area the range of age groups included in the Discouraged Worker sample is quite broad from young to old. These respondents also were far more likely to be male (86 percent). Discouraged Workers tend to be fairly well educated with most holding at least a high school diploma and about 25 percent holding a college degree. Discouraged workers are not in the labor force for a number of reasons. The most common reasons a person may be a discouraged worker are childcare, care for ill or disabled adult members of the family, or lack of interest in work.

[11] The Discouraged Worker sample size for the Pembina County area is too small to provide a detailed demographic description.

How the Study was Done

The Workforce Development Division of the Department of Commerce selected the Social Science Research Institute (SSRI) to conduct Labor Availability and Underemployment Studies for several North Dakota communities, including designated counties in Minnesota and South Dakota. The goal of the studies are to provide the "core" data elements which have been identified as being needed to support businesses attraction, expansion and retention by a workgroup consisting of representatives from local development organizations, Job Service North Dakota, and the Department of Commerce.

SSRI uses a proven research methodology that has been adopted by the Bureau of Labor Statistics which establishes standards for collection of the core data. The following is a detailed description of SSRI's research methodology utilized in these studies.

Methodology

Target Population. The target population was defined as adults 18 years of age or older who had the most recent birthday residing in telephone households in the selected labor market county areas.

Target Labor Market Areas. As defined by the Department of Commerce, the 2006 study included 40 North Dakota counties, 8 Minnesota counties and 4 South Dakota counties.

Target Labor Market County Area Sample Sizes. County sample sizes provide accuracy at plus or minus five percent[12] with a 90 percent confidence level. The samples are distributed in proportion to the total adult population age 18 or older in each of the target labor market county areas.

Field Period. The survey was pre-tested January 3 and 4 and the data were collected February 1 through June 21, 2006.

Sample Design. Information about how survey samples are developed is important in assessing the validity and reliability of the results of the survey. While a fully random design is the most desirable approach in developing a representative sample of the population, this approach often results in under-sampling demographic groups with low rates of telephone ownership. These groups most often include young adults, minorities and individuals with low education and income. Increasingly, researchers use stratified random designs to guard against under-sampling. To determine whether a representative sample was obtained, it is helpful to calculate the response rate for the sample as a whole as well as to examine how closely the sample matches the known demographic characteristics of the population. If substantial differences are detected, post-stratification weights can be applied during analysis to ensure that the results of the survey can be generalized to the larger population.

[12] This means that one can be 90 percent confident that the mean response for any question in the survey will not vary any more than 5.0% in either direction from the actual mean for that response if all persons age 18 or older in the target county area were surveyed.

To obtain a representative sample for the labor market survey, random selection of households and random selection of respondents within households by county were used during the data collection process. The survey of adults (18 or older) performed by SSRI was conducted by telephone. A random sample of 10-digit telephone numbers were generated for each county labor market area utilizing Genesys Sampling Systems Random Digit Dialing (RDD) in-house software. The list from which the numbers were drawn included only selected North Dakota, Minnesota and South Dakota area codes and telephone banks (that is, blocks of 1,000 consecutive numbers) that had been determined to contain a threshold number of active residential numbers.

Overall, SSRI called 8,173 numbers in the selected labor market counties to determine whether it was a working residential number in contrast to a non-working number, a commercial/business line, a cell phone, data or fax line, or a non-primary household telephone. SSRI staff classified 1,828 of these numbers as working residential numbers eligible for interview and successfully interviewed 1,044 of these households. Throughout the study, completed interviews were monitored to determine whether the county samples matched population estimates in terms of gender and the age distribution of North Dakota and Minnesota residents' age 18 or older.

Response Rates. Survey professionals in general have found that response rates for telephone surveys have declined in recent years. These declines are related to the proliferation of fax machines, answering machines, blocking devices and other telecommunications technology that make it more difficult to identify and recruit eligible individuals. These declines are also related to the amount of political polling and market research that is now done by telephone and to the higher likelihood that eligible households will refuse to participate in any surveys. The consequence has been that response rates for telephone surveys are now calculated in several different ways although all of these approaches involve dividing the number of respondents by the number of contacts believed to be eligible. Differences in response rates result from different ways of calculating the denominator, i.e. the number of individuals eligible to respond. The most liberal approach is called the Upper Bound method and takes into account only those individuals who refuse to participate or who terminate an interview. This approach is used by the federal government because of controversies about the eligibility of numbers that could not be reached. The Upper Bound method of calculating the response rate for the overall project yields an average rate of 59%. The most conservative approach is the method adopted by the Council of American Survey Research Organizations (CASRO). The CASRO method uses the known status of portions of the sample that are contacted to impute characteristics of portions of the sample that were not reached. The CASRO method of calculating the response rates for the overall project yields an average completion rate of 68.5% if over-quota eligible are assumed to qualify as "good numbers." Table 1 shows the dispositions and the Upper Bound and CASRO response rates by county for the sample numbers classified.

County Area Labor Market Sample Dispositions

County	Dates	C	NW	NP	B	R	T	HCNI	U-Bound	CASRO	Total
Pembina County											
Pembina	5-21 to 5-24	262	658	72	3	75	24	101	72.6%	56.7%	1,195
Walsh	3-24 to 3-27	269	1,390	73	14	102	22	99	68.4%	54.7%	1,969
Cavalier	5-13 to 5-17	256	1,444	52	7	65	24	99	74.2%	57.7%	1,947
Kittson, MN	6-18 to 6-22	257	2,500	122	10	39	19	115	81.6%	59.8%	3,062
Area 27 Totals	Succ. Interviewed	1,044	5,992	319	34	281	89	414	73.8%	57.1%	8,173

C Completed Interviews
NW Non-working
NP Non-Primary Household
B Language Barrier
R Refused
T Terminated Interview
HCNI Household Contacted Not Interviewed

Interviewing Procedures. Telephone interviews were conducted from SSRI and the Department of Sociology at the University of North Dakota by trained interviewers with supervision and random monitoring for technique and adherence to established procedures. Production interviewing began after a pre-test of the survey in a series of actual telephone interviews. The majority of interviews were conducted on weekday and Sunday evenings. Throughout the study, completed interviews were monitored to determine whether the samples match U.S. Census 2000 North Dakota County population figures in terms of gender and the age distribution of respondents age 18 or older. Efforts to complete interviews with selected respondents were extensive. The number of callbacks to complete an interview with an eligible respondent ranged from 1 to 12.

Computerized Assisted Telephone Interviewing (CATI). To ease telephone interviewing, all telephone interviews were conducted with a computer assisted telephone interview (CATI) system. The SSRI version of CATI is implemented with microcomputers, which display survey questions on interview terminals and collect telephone interview data as the interview is being conducted. For CATI telephone interviews, all coding of numeric and categorical responses is done by microcomputer software, with error checking to catch out-of-range values at the time of the interview.

The use of CATI increases both the speed of data collection and the accuracy of data collected. All CATI questionnaires are tested prior to conducting telephone interviews to ensure accurate encoding of survey responses and accurate branching and skip patterns in the questionnaire. The system prompts interviewers for a valid response to every question in the survey. For numeric questions, legitimate ranges of responses are entered into the computer so that the computer can detect out-of-range values. When these are detected during the interview, the computer warns the interviewer that the entered value is out of range and prompts the interviewer for a legitimate response.

Data validation at the data management step consists of accounting for all cases in the survey, and ensuring that data record exists for every completed interview in the sample.

Data records were passed through a SPSS program to ensure that all data fields are readable, and that all fields are reading the format specified for that variable. A separate data-cleaning step will also be reviewed and spell-checked for readability. The final validation step consists of checking the consistency of respondents' answers to objective and verifiable survey questions. All survey data will be backed up and stored on micro- computer diskettes for immediate access and corrections, should data corrections be needed.